

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0077], beginning at page 21, with the following amended paragraph:

[0077] FIG. 11 illustrates a block diagram of an example embodiment of an improved optical switching device having a movable microstructure with low insertion loss. The improved optical switching element is capable of switching two inputs 518, 519 to two outputs (such a switch is referred to as an 2x2 switch). The design allows a single degree-of -freedom motion (see 508) while maintaining a large bend radius 509. The improved optical switching device operates in two positions in this example embodiment. In position one, the two input optical signals are connected straight through input ports A, B to designated output ports C, D respectively; in position two, the input signals entering ports A, B cross over each other before being output at ports D, C respectively. In this example embodiment, all routings are done with waveguides 510 placed over the movable platform 511. Input waveguides 512, 513 and output waveguides 514, 515 are placed over raised platforms 516 that are stationary (fixed) to the substrate 517.

Please replace paragraph [0085], beginning at page 24, with the following amended paragraph:

[0085] FIG. 12 illustrates a block diagram of another example embodiment of a low loss improved optical switching device where the movable microstructure 543 is a rotatable microstructure. For convenience, the terms “movable microstructure” and “movable platform” also refer to any moving microstructure, including those which rotate and those which move linearly. In this configuration, the motion of the movable microstructure 543 still has a single-degree of freedom, but the single-degree of freedom 544 is angular rather than linear. The movable or rotatable microstructure 543, in this particular example embodiment, is in the shape of a ring. There are four leaf-like waveguide structures 545 inside the ring. Preferably, the leaf-like waveguide structures have large radii of curvature so that the waveguides change the direction of the optical

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signal gradually. Outside the ring are the electrodes used for actuation 546 and sensing 547. The movable waveguides 548 are located on top of the movable microstructure 543, with connection points located at four locations (549, 550, 551, 552). The ring structure is connected to the springs 553, and the entire movable microstructure 543 is suspended over an air gap above the substrate. The springs 553 are connected to the substrate through the anchors 554. Input and output signals are connected to the movable microstructure 543 through stationary waveguides 450, 452, 454 and 560. The stationary waveguides 450, 452, 454 and 560 are preferably located on four raised platforms 555, 556, 557, 558, respectively, so that the waveguides are all at the same height.